

## RESEARCH SUMMARY TABLE

Intervention	# of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome	Evidence-Based Practices	Notes
Activity-Based Intervention	19*	3–12	286	Language, teacher’s teaching skill, behavior, listening skills, picture/object naming skills, counting	+	CMS, NAC, NPDC <sup>1</sup>	*Includes studies cited in an integrated review of literature by Pretti-Frontczak, Barr, Macy, and Carter (2003).
Adult-Mediated Social Skills Instruction	137*	3–23	1160+	Functional language use, behavior, theory of mind, social skills, question asking	+	CMS, NAC, NPDC	Number includes studies in a review by Reichow & Volkmar (2010) Flynn & Healy (2012), Genc & Vuran (2013), McMahon, Lerner, & Britton (2013), and Walton & Ingersoll (2013).
The Alert Program® for Self- Regulation	0					CMS, NAC, NPDC	
Applied Behavior Analysis						Applied behavior analysis is not a single intervention	
Assistive Technology	52*	3–adult	382	Communication, matching, spelling, problem solving, alertness, motivation and behavior, task completion, self-help, social interaction, emotion recognition, joint attention	+	NPDC	*Includes results of a review by Ploog, Scharf, Nelson, and Brooks (2013), Baxter, Enderby, Evans, and Judge (2012), DiGennaro, Reed, Hyman, and Hurst (2011); Lang et al., (2011); Ramdoss et al., (2011); and Pennington (2010).

<sup>1</sup>Centers for Medicaid and Medicare Services (CMS), National Autism Center (NAC), National Professional Development Center (NPDC)

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Auditory Trainer	2	6–11	7	Eye contact, word production, social orientation, speech recognition, on task behavior	+		
Augmentative and Alternative Communication	62*	1–20	293	Functional language use, behavior change, skill acquisition, sound/symbol association, imitation, requesting, social interaction	+	NPDC	*This number includes studies cited in integrated reviews of literature by Gevarter, et al. (2013); Ganz et al. (2011); Millar, Light, and Schlosser (2006); and Van Der Meer and Rispoli (2010), which reviewed some overlapping studies. See additional studies under Picture Exchange Communication System.
Cartooning	7	3–14	42	Social behavior, social interactions, appropriate behavior, communication	+	CMS, NAC, NPDC	
Categorization	2	6–16	9	Sorting, categorization	+		
Chaining	9	3 to adult	29	Daily-living skills (drinking from a cup, Internet skills, making a snack, independent eating) escape behavior, sharing, chained vocalizations	+	CMS, NAC, NPDC	
Choice Making	14	2–28	33	Appropriate behavior, motivation, aggressive/destructive behavior, problem behavior, task engagement, rejections, social play/pragmatic skills	+	CMS, NAC, NPDC	
Circle of Friends	5	3–10	37	Social skills, social integration, peer acceptance, inclusion, teachers' perception, peer attitude	+	CMS, NAC, NPDC	
Cognitive Behavior Modification	16*	3–adult	301	Aggressive behavior, on-task behavior, stereotypic behavior, social behavior, communication skills	+	CMS, NAC, NPDC	*Includes reviews of literature by Scattone (2013).
Comprehensive Autism Planning System (CAPS)	0					CAPS is not a single intervention	*No studies have been conducted on the model. Studies have been conducted on the elements of the model.

Intervention	# of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome	Evidence-Based Practices	Notes
Conversation Starters	8	4–10	37	Conversational exchanges: scripted statement, unscripted statement, unprompted statement, responses to peers, bid for joint attention	+	CMS, NAC, NPDC	
Developmental Social Pragmatics	2*	2.5–5.5	8	Spontaneous language, total appropriate language	+	CMS, NAC, NPDC	*Other techniques include elements of developmental social pragmatics, including Floor Time™ /DIR, PLAY Project and other play-based models, the SCERTS model, and incidental teaching.
Direct Instruction	14	4–19	92	Academic, task engagement, language, play, reading comprehension, social skills, and task completion	+	CMS, NAC	
Discrete Trial Training	46*	3–13	602	Communication, behavior generalization, parent discrete trial training, object matching, PECS, vocal imitation, motor, person/social functioning, cognitive functioning, stereotype behaviors, parent education, social-emotional functioning, out-of-seat behavior, motor imitation, daily living skills, identifying emotions, identifying objects, IQ, joint attention, spontaneous responses, social interaction, social quotients, listener skills, adaptive behavior, play responses, math and language arts content, following directions to choose, receptive language, expressive language	+	CMS, NAC, NPDC	*Includes a review of literature by Spector (2011) and Eldevik et al (2009).
Errorless Learning	3	3–9	9	Word acquisition, discriminative labels, compliance training	+	CMS, NAC, NPDC	

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Extinction	23	2–15	76	Social consequence, sleep problems, aggressive behaviors, problem behavior, self-injurious behavior, disruptive behavior, finger picking, appropriate vocal responses, inappropriate verbalizations, transitions, and sorting, food refusal, picky eating	+	CMS, NAC, NPDC	
Facilitated Communication	30*	5–adult	153	Validity, reliability	Largely -		*This includes an integrated review of literature by Mostert (2001).
Fading	21	2-15	74	Aggressive behavior, problem behavior, liquid and food refusal behavior, self-management, sight-word reading skills, word identification, discrimination learning, conversational exchanges engagement, disruptive behavior, sleep problems, promoting school attendance	+	CMS, NAC, NPDC	
Floor Time™	5	2–6	303	Communication behavior, negative behavior, problem solving, symbolic process, functional development	+	CMS, NAC, NPDC	
Functional Communication Training	42*	3–28	129	Functional communication training, reduction of problem behaviors, picture schedules, picture labels, gestural communication, self-injury, task completion, escape, elopement	+	CMS, NAC, NPDC	*Includes meta-analysis, but does not include other interventions identified simply as behavioral in the research article even though they used the functional communication steps.
Incidental Teaching	16	3–10	131	Social skills, communication, behavior, community-based skills	+	CMS, NAC, NPDC	*Includes an integrated review of literature by Pindiprolu (2012).
Incredible 5-Point Scale	0					CMS, NAC, NPDC	

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Joint Action Routines	4	4–14	9	Appropriate responses, play, cognitive skills, card game playing, circle time and snack time behaviors, drawing	+	CMS, NAC, NPDC	
LEAP (Learning Experiences and Alternative Programs for Preschoolers and Their Parents)	2*	3–21	183	Social, communication, behavior	+	CMS, NAC, NPDC	*See peer- and adult-mediated social skills strategies for additional studies on strategies used in the LEAP model as well as ABA strategies.
More than Words and Learning/ Language and Loving It: The Hanen Program for Children with ASD	3	1–2	116	Social, communication	+	CMS, NAC, NPDC	
Multimedia Interventions	98*	3–21	557	Virtual reality, PDAs, computer software, mindreading, emotion recognition, symbolic play, language development, spelling, daily living, vocational skills, job training (packaging shipments), food preparation, cooking skills, purchasing items at a grocery store, aquatic play skills, tying shoelaces, social interactions, facial recognition, emotion recognition, transition, pre-literacy skills, functional math skills	+	CMS, NPDC	*Includes reviews by Kagohara (2010) and Pennington, (2010), Gardener (2013) and Khowaia (2013).
Music Therapy	45*	3–21	298	Social, attribution, joint attention, imitation, behavior, academic, communication, vocalizations, motor, cognitive	Mixed		*Includes an integrate review of literature by Simpson and Keen (2011) and Whipple (2004).
Option Method	0						

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Peer-Mediated Interventions	148	3–15	631	Social skills, peer interaction, participation, communicative skills, cooperative learning, social interaction, group working responsibilities, reciprocal interactions, toy play, on-topic verbalizations, play behavior	+	CMS, NAC, NPDC	*Includes reviews by Chan et al. (2009); Wang and Spillane (2009); Zhang et al., (2011); and Lang et al. (2011).
Picture Exchange Communication System (PECS)	63*	1–17	843+	Language production, communication, behavior	+ **	CMS, NAC, NPDC	* Includes integrated reviews of literature by Ganz, Simpson, Lund (2012); Flippin, Reszka, and Watson, L.R. (2010); Hart and Banda (2010); Tien (2007) and Preston and Carter (2009) including overlapping studies. ** + results for teaching requests, mixed results for increased speech
Pivotal Response Training (PRT)	26*	1–16	334	Adaptive functioning, joint attention, stereotypic behavior, self-management, responsiveness to verbal initiations, self-initiation, social behaviors, adaptive behaviors, symbolic play skills, toy play	+	CMS, NAC, NPDC	*Includes results of a review by Genc and Vuran (2013), See also adult-mediated social skills interventions for additional studies.
Play Skills-Based Interventions	31	3–16	1034	Play behavior, social interactions, on-task play behavior, play-related talk, initiation of social contact, duration of social contact, reduction in stereotyped behaviors, motivation, athletic group play	+	CMS, NAC, NPDC	
Positive Behavior Support						Positive Behavior Support is not a single intervention	
Priming	25*	3–15	28	Academic responding, appropriate behavior, disruptive behaviors, spontaneous initiations, toileting, compliance with dental exam, play skills, daily living skills	+	CMS, NAC, NPDC	*Includes a review of literature by Lang et al. (2011).

Intervention	# of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome	Evidence-Based Practices	Notes
Prompting	95*	3–adult	308	Academics, art, communication, imitative skill, generalization, social and daily living skills, leisure choice, Internet skills, spontaneous response, disruptive behaviors, reading comprehension, safety, writing, empathy, observation, on task, identifying numbers, job/vocational tasks, cooking tasks, food preparation, manding for information with “where” and “which”, photocopying, faxing, label-making, purchasing items, aquatic play skills, auditory-visual conditional discrimination	+	CMS, NAC, NPDC	*Includes an integrated review of literature by Walker (2008) and a systematic review of literature by Gardener (2013).
Rapid Prompting Method (Halo-Soma Method)	2	8–14	9	Communicative speech, cognitive ability	Mixed/ inconclusive		
Reinforcement	93	3–adult	230	Communication, self-management, social skills/interaction, behavior management, symbol comprehension/expression, communication/speech, food consumption, leisure education, academic, work-related behaviors, play skills, stereotypic behavior	+	CMS, NAC, NPDC	
Relationship Development Intervention	1	2–8	16	Experience sharing, reciprocal communication, functional behaviors, flexible and adaptive behavior	+	CMS, NAC	
Relaxation	2	11–12	2	Relaxation, disruptive behavior	+	CMS, NAC, NPDC	
Repeated Storybook Intervention	1	3	1	Repeated storybook reading, language development	+	CMS, NAC	
Rules and Routines	9	2–10	21	Challenging behaviors, parent-child interactions, activity engagement, sleep problems, athletic group play, functional toy play	+	CMS, NAC, NPDC	

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SCERTS® Model	0					CMS, NAC, NPDC	
SCORE Skills Strategy	1	12–17	10	Share ideas, compliment others, offer help or encouragement, recommend changes nicely, and exercise self-control	+	CMS, NAC, NPDC	
Self-Determination Strategies	7	12–adult	109	Self-knowledge, communication, life mapping, goal planning, person-centered planning methods, self-determination curriculum, self-instructional model, technology, exercise goal settings	Mixed	CMS, NAC, NPDC	
Self-Regulated Strategy Development	3	8–10	8	Writing skills	+	CMS, NAC, NPDC	
Sensory-Based Interventions	75*	2–adult	1028+	Weighted vests, therapy balls as alternative seating, sensory integration therapy, auditory integration therapy, Snoezelen multisensory environments, sensory and motor interventions	Mixed	CMS, NAC, NPDC	*This number includes the results from four reviews.
Shaping	3	3–8	8	Vocalization frequency, social behavior	+	CMS, NAC	
Sign Language	71*	4–28	295	Functional language use	+	CMS, NAC, NPDC	*This number includes studies cited in integrated reviews of literature by Gevarter, et al. (2013); Schlosser & Lee (2004).



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SOCCSS: Situation-Options-Consequences-Choices-Strategies-Simulation	0					CMS, NAC, NPDC	
Social Autopsies	0					CMS, NAC, NPDC	
Social Narratives: Social Stories™	99+	3–adult	246+	Appropriate behavior, conversation skills, prosocial behavior, problem behavior, self-awareness, repetitive behaviors, inappropriate sexual behavior, mealtime skills, unsafe behavior, obsessional behavior	Mixed	CMS, NAC, NPDC	*Includes reviews by Test et al. (2011); Karkhaneh, et al. (2010); Kokina and Kern (2010); Reynhout and Carter (2010); Wang and Spillane (2009); and Ali and Frederickson (2006). Studies reviewed overlapped between review papers.
Social Narratives: Power Card Strategy	4	10–17	10	Appropriate behavior, sportsmanship skills, conversation skills	+	CMS, NAC, NPDC	
Social Narratives: Social Scripts	9	4–21	38	Appropriate behavior, verbal communication skills, social skills, peer interaction, game play	Generally positive	CMS, NAC, NPDC	
Social Thinking	22	3–16	166	Perception/imitation, emotion recognition, pretense, distinction between physical and mental, first-order belief, false belief, second-order belief, irony/humor, mental representations, verbal behaviors, imitations, listening with eyes, nonverbal behaviors, verbal interactions, friendship skills, amount of get-togethers, problem behaviors, social anxiety, autistic symptoms	+	CMS, NAC	*A systematic review was conducted in 2012 and included in the research table.

Intervention	# of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome	Evidence-Based Practices	Notes
SODA: Stop-Observe-Deliberate-Act	2	9–12	5	Social behavior, social interactions, appropriate behavior, spontaneous initiation, cooperative learning, participation in social activities	+	CMS, NAC, NPDC	
Strategies for Teaching Based on Autism Research (STAR) Program	2	2–6	114	Expressive and receptive language, following routines, pre-academics, play, social skills, behavior	+	CMS, NAC	
TEACCH (Treatment and Education of Autistic and Related Communication Handicapped Children)	19*	2–adult	523	Working skills, functional communication abilities, problem behaviors, play skills, personal independence, social abilities, cognitive skills, academic skills, prevocational skills, imitation, fine motor, gross motor, and nonverbal conceptual skills, latency, adaptive behaviors, social behaviors, cognitive and adaptive skills	+	CMS, NAC, NPDC	*Also see studies on visual environmental supports, rules, and routines, and adult-mediated social skills strategies—component of the TEACCH model. Includes meta-analysis. (Virues-Ortega, 2013)
Test Taking Strategy: Pirates	1	12–17	4	Test-taking skills	+	CMS, NAC, NPDC	
Using Special Interests	16	2–19	75	Communication, joint attention, social interaction, math and reading tasks	+	CMS, NAC, NPDC	

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Verbal Behavior	38*	3–25	114	Speech, communication, orienting toward speaker, compliance and problem behavior, stereotypic vocalizations, independent tacting	Mixed	CMS, NAC	*A systematic review was included in the table Raulston et al (2013)
Video Modeling	130*	1–21	388*	Social behavior, communication, social orienting, eye contact, conversation skills, toilet training, play and social skills, social sequences, social language, task engagement, social understanding, perspective-taking, purchasing skills, prevocational/vocational skills, classroom rules, pretend play, letter recognition, fine and gross motor tasks, computer skills, cooking skills, academic skills (including math)	Generally Positive	CMS, NAC, NPDC	* Includes studies cited in reviews of literature conducted by Mason (2013), Acar & Diken (2012), Prater et al. (2012), Kagohara (2010), McCoy and Hermansen (2005), Rayner et al., (2009,) Shukla-Mehta, Miller, and Callahan (2010), and Want and Spillane (2009). Some studies appeared in multiple reviews.
Visual Environmental Supports	85*	3–adult	228	Problem behavior, transition, communication, social behavior, leisure activities, daily living skill, vocational skill	+	CMS, NAC, NPDC	* Includes studies cited in integrated reviews of literature conducted by Lequia, Machalicek, and Rispoli (2012), Wheeler, Baggett, Fox, and Blevins (2006), and Odom, Brown, Frey, Karasu, Smith-Cantor, and Strain (2003).
Ziggurat Model	0						*No studies have been conducted on the model. Studies have been conducted on the elements of the model.